

Prevalence of pain in adult patients

Pain prevalence

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Aim: This study aimed to determine the frequency and characteristics of pain in inpatients.

Material and Methods: This study was conducted as an analytical and cross-sectional type of time prevalence on 25-26-29-30 July 2019, including 127 patients hospitalized in a public hospital in İstanbul. Data were collected through the Introductory Information Form, the Brief Pain Inventory (BPI), and the Revised American Pain Society Patient Results Questionnaire through face-to-face interviews. The mean, percentage distribution and standard deviation values were calculated using descriptive statistical methods. First of all, the Kolmogorov-Smirnov, Shapiro Wilk-W tests were performed and the normal distribution of the data was examined. According to these results, nonparametric tests were applied. The Mann-Whitney U test was used between two independent groups, the Kruskal-Wallis test and Spearman's Correlation analysis were used between more than two independent groups.

Results: As a result of the analysis of the obtained data, the average age of the participants included in the study was 48.13 ± 16.88 years. In addition, it was found that maximum 37% (n = 47) were primary school graduates and 53.5% (n = 68) were women. It was determined that 44.9% (n = 57) of the participants preferred most digestive system and surgical diseases as medical diagnosis and treatment, and 59.8% (n = 76) preferred paracetamol as analgesic use. It was determined that 21.3% (n = 27) of the pain they experienced was a stinging type. It was found that the most pain was felt in the abdomen and pelvic region in 56.7% (n = 72). The Brief Pain Inventory total score average was 5.80 ± 1.85 and the pain prevalence was 76.37%.

Discussion: The prevalence of pain in adult patients in Turkey, according to the survey results, is quite high. Despite the high prevalence of pain, moderate pain intensity may be associated with ethnic and socioeconomic factors in the perception of pain. It is recommended that health professionals who play an important role in relieving or eliminating pain, increase their knowledge of pain, and coping with pain.

Keywords

Pain; Adults; Prevalence; Turkey

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Introduction

Pain is a health problem that leads people to seek help from health professionals [1]. Epidemiological studies on pain examine how much of the society complaints of pain, and that pain occurs with age, gender, race, and social differences. Prevalence is a result that explains the frequency of pain in a certain period of time. Study results on prevalence differ greatly [2]. The difference may arise from the lack of an objective definition of pain, which is subjective, and the different meanings and interpretations attributed to pain by researchers and evaluators. However, despite the fact that the knowledge of health professionals about pain has increased with the developing technology, the reality of pain continues. Although the pain formation process is physiopathologically similar, the expression of pain is affected by the cultural situation, gender, pain-causing situation, and the meaning and importance given to pain by patients [3]. In this context, when the literature is examined, it is stated that 64-90% of cancer patients suffer from moderate pain [4], chronic pain is a major world problem [5,6], postoperative pain is one of the most important causes of acute pain. It is reported to be experienced by all patients who underwent surgery, albeit of varying severity [7-9]. Although the reality of pain is known, it is known that culture is also effective in pain reporting [3]. This is really the prevalence of pain in patients who were hospitalized in Turkey. What are their sociodemographic characteristics? Are their medical diagnoses effective in reporting pain? This study was conducted to find answers to questions.

Material and Methods

This study, which was conducted as an analytical and cross-sectional type of time prevalence, was carried out to determine the frequency and characteristics of pain in inpatients. This study helps fulfill the goal of the national pain strategy of producing more precise estimates of chronic pain and high-impact chronic pain. This study of findings could be used to target pain management interventions.

Research Population and Sample

Within the scope of the study, all patients who were hospitalized to the surgery and internal medicine clinics in a public hospital in Istanbul, where the data will be collected, on 25-26-29-30 July 2019, constituted the population. The present study aimed to reach all patients by not choosing the sample. However, 127 patients were included in the study, with a prevalence of four days, due to the admission of pediatric patients and their refusal to participate in the study. Patients over the age of 18 who were treated in the hospital for any reason and who volunteered to participate were included in the study.

Research Questions

- i. What has been the pain intensity of the patients in the last 24 hours?
- ii. What is the severity of pain according to the medical diagnosis of the patients?
- iii. What is the pain severity according to the age groups of the patients?
- iv. What is the pain intensity according to the pain characteristics of the patients?

Data Collection Tools

The data were collected by means of inventory and questionnaires that included questions evaluating the frequency and characteristics of the patients' pain using the face-to-face interview method with patients who were hospitalized for any reason and met the sample selection criteria in the public hospital. In this study, the Introductory Information Form and Brief Pain Inventory were used

The Brief Pain Inventory (BPI): It is a short, easy-to-apply assessment tool that can be used to assess pain. This scale was developed by Cleeland and Ryan (1994). A Turkish validity and reliability study was developed by Dicle et al. (2012), and the Chronbach alpha coefficients ranged from 0.55 and to 0.91 [10]. The Brief Pain Inventory evaluates the severity of pain (4 questions), localization of pain, medical treatments for pain, and the effect of pain on daily functions (7 questions) and questions how much pain has decreased in the last 24 hours or last week. Patients are asked to rate their pain when it is most severe and least severe, and are scored from 0 to 10 during data collection, as well as their average pain over the previous 24 hours. According to this scoring, 0 means no pain, and 10 means the presence of very severe pain. Patients are also asked to individually assess how their pain interacts with general activity, mood, walking ability, normal working, relationships with other people, sleep, and enjoying life. In addition, patients are asked to estimate the percentage reduction of pain they will feel after pain treatment and place their pain areas on the human figure. In the evaluation of the worst pain in the Short Pain Inventory, "1-4 points" is defined as mild, "5-6 points" as moderate, and "7-10 points" as severe pain. Ethical Aspect of the Research

In the planning phase of the study, research permission was obtained from a foundation university scientific research and publication ethics board (ethical approval number: E.1585 / 2019) and the hospital administration.

Data Analysis

SPSS 25.0 was used. The mean, percentage distribution, and standard deviation values were calculated using descriptive statistical methods. The Kolmogorov-Smirnov test was used for normality. According to these results, the Mann-Whitney U, Kruskal-Wallis and Spearman correlation analyses were used.

Results

The average age of the participants was 48.13 ± 16.88 years, and the age range did not exceed 24.4% ($n = 31$) in the 30-40 age group. The educational status of the participants was primary school in no more than 37% ($n = 47$) and 53.5% of the participants were women ($n=68$). Clinically, the majority of patients (66.9%) were surgical patients ($n = 85$). In terms of medical diagnosis and treatment, the most common digestive system and surgical diseases accounted for 44.9% ($n = 57$), analgesics from the paracetamol group were preferred by 59.8% ($n = 76$) as analgesics and, it was determined that 21.3 % ($n = 27$) were of the stinging type. It was found that the greatest pain was felt in the abdominal and pelvic region (56.7% ($n = 72$)). It was determined that 29.1% ($n = 37$) of cases, the duration of pain was between 72 hours and 29 days at most (Table 1).

Table 1. Characteristics of the patients (N= 127)

Characteristics	N	%
Education Status		
To be able to read and write	12	9,4
Primary School	47	37,0
Middle School	24	18,9
High school	31	24,4
University	13	10,2
Age Group		
19-29	18	14,2
30-40	31	24,4
41-51	29	22,8
52-62	27	21,3
63 and over	22	17,3
Gender		
Female	68	53,5
Male	59	46,5
Clinic		
Surgery	85	66,9
Internal diseases	42	33,1
Medical Diagnosis and Treatment		
Internal diseases	43	33,9
Cardiovascular surgery	6	4,7
Neurosurgery	4	3,1
Digestive system and surgical diseases	57	44,9
Urinary system surgery	7	5,5
Upper-lower extremity surgery	10	7,9
Use of Analgesics		
No analgesics usage	13	10,2
Tramadol	5	3,9
Paracetamol	76	59,8
Anti-inflammatory drugs	33	26,0
Characteristics of Pain		
Pressure	2	1,6
Stinging	27	21,3
Stinging sharp	12	9,4
Like a knife stabs	16	12,6
In the form of the cramp	7	5,5
Compressing	14	11,0
Painful	4	3,1
Flammable	18	14,2
Widespread	4	3,1
Zing	23	18,1
Most Painful Area		
Lower limb	19	15,0
Head-neck	4	3,1
Chest	27	21,3
Abdomen and pelvic area	72	56,7
Upper limb	5	3,9
Duration of Pain		
0-7 hour	18	14,2
8-23 hours	21	16,5
24-47 hours	11	8,7
48-71 hours	2	1,6
72 hours -29 days	37	29,1
30-89 days	7	5,5
90 days and over	31	24,4
Age (mean±Sd)	48,13±16,88	

Table 2. Short pain inventory mean scores of participants (N= 127)

The severity of the pain	Minimum	Maximum	Ȳ	SD
Worst pain in the last 24 hours	2,00	10,00	9,25	1,59
The least pain in the last 24 hours	,00	10,00	3,87	2,45
Average pain in the last 24 hours	1,00	10,00	6,55	2,17
Current pain	,00	10,00	4,39	3,17
Percentage of relief from pain with pain treatment in the last 24 hours	20,00	100,00	61,73	33,83
Short Pain Inventory Total Score Average	1,18	9,45	5,80	1,85
How today's pain differs from the usual pain	Yes	N=105,	%87,2	
	No	N=22,	%17,3	

Ȳ : mean, SD: standard deviation

Table 3. Comparison of the descriptive characteristics of the participants and their short pain inventory mean scores (n = 127)

	Worst pain in the last 24 hours		The least pain in the last 24 hours		Average pain in the last 24 hours		Current pain	
	Ȳ	Sd	Ȳ	Sd	Ȳ	Sd	Ȳ	Sd
Gender								
Male	9,19	1,73	4,05	2,71	6,52	2,15	4,25	3,01
Female	9,33	1,42	3,66	2,12	6,59	2,21	4,22	2,99
U	2,127	1,858	2,022	2,286				
P	,448	,470	,937	,170				
Age group								
19-29	9,55	,983	4,44	2,28	7,05	2,04	4,33	2,40
30-40	9,09	2,10	4,09	2,48	6,19	2,15	4,67	2,76
41-51	9,41	1,47	4,20	2,42	7,06	2,03	4,75	3,45
52-62	9,11	1,69	2,62	1,84	5,96	2,39	3,40	3,46
63 and over	9,22	1,23	4,18	2,92	6,72	2,11	4,77	3,50
X²	1,379	9,153	6,955	3,815				
P	,848	,057	,138	,432				
Clinic								
Surgical diseases	9,18	1,74	4,19	2,43	6,58	2,13	4,63	2,95
Internal diseases	9,40	1,28	3,28	2,40	6,51	2,26	3,95	3,51
X²	1,880	1,622	1,705	1,622				
P	,527	,012	,677	,400				
Education status								
Literate	8,58	2,02	4,58	2,71	6,58	2,10	5,08	3,62
Primary school	9,19	1,71	3,48	2,36	6,34	2,31	4,65	3,25
Middle school	9,25	1,93	4,08	2,24	6,79	2,16	3,95	2,57
High school	9,54	,960	4,35	2,58	7,00	1,86	4,35	3,37
University	9,46	1,19	3,07	2,49	5,84	2,44	3,69	3,14
X²	2,451	4,859	3,825	2,567				
P	,654	,302	,430	,633				

X²: Kruskal-Wallis test, U: Mann- Whitney U test

The Brief Pain Inventory Total Average Score of the patients participating in the study was 5.80 ± 1.85. The mean score for the worst pain in the last 24 hours was 9.25 ± 1.59 and the mean pain score for the last 24 hours was 3.87 ± 2.45. The average pain score in the last 24 hours was 6.55 ± 2.17. The current average pain score was found to be 4.39 ± 3.17. The mean percentage of pain relief with pain treatment in the last 24 hours was determined to be 61.73 ± 33.83. It was determined that 87.2% (n = 105) answered in the affirmative that today's pain is different from the usual pain (Table 2).

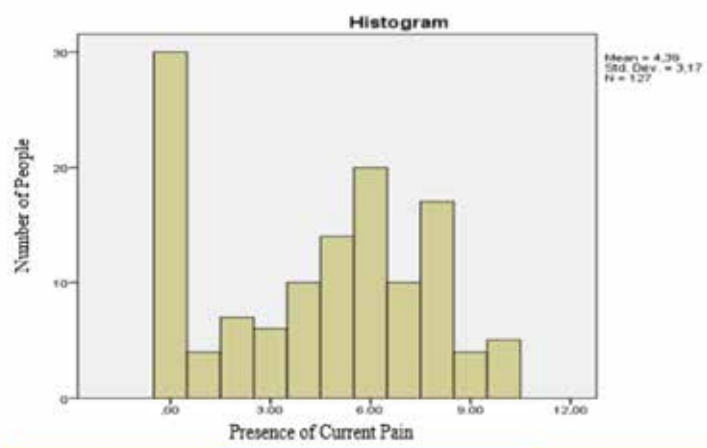


Figure 1. Patients’ Current Pain Frequency

The data obtained on the presence of current pain with the Brief Pain Inventory of the patients were as follows: 23.62% (n = 30) did not have pain, and 76.37 % (n = 97) had pain. According to the results of the study, the prevalence of pain was 76.37 % (Figure 1).

The difference was not found statistically significant ($p > 0.05$) according to the average pain severity score of the patients in the Brief Pain Inventory Total Score average, according to the age, gender, education level and clinical variable of the hospitalization. A significant difference ($p < 0.05$) was found according to the clinical variable of their hospitalization. It was determined that the difference was due to surgery clinics for the mildest pain in the last 24 hours ($p < 0.05$) (Table 3).

One of the research questions, “What was the severity of pain according to the age groups of the patients?” was asked for the evaluation. According to this evaluation, the highest average of the participants for the worst pain in the last 24 hours was determined to be 9.555 points in the 19-29 age group. The highest average for the least pain in the last 24 hours was in the 19-29 age group with 4.444 points. The average score of average pain in the last 24 hours was 7.069 in the 41-51 age group, and 4.772 points in the 63 years and older group, with the highest mean score for current pain (Figure 2).

According to the medical diagnoses of the patients, in one of the research questions, the highest average of the patients for the worst pain was 9.83 points with the diagnosis of cardiovascular surgery diseases; the highest average for the least pain was 4.61 points with the diagnosis of the digestive system and surgical diseases. The average score for pain was 7.4, and the highest mean score for upper-lower extremity surgical diagnosis and current pain was 4.92 points with the diagnosis of the digestive system and surgical diseases (Figure 3).

In evaluating the characteristics of the pain and the severity of the pain of the participants, the participants scored 10 points for the worst pain, the most pressing pain type of the highest average, 5.75 points for the pain type with the highest average pain, and the average score of the average pain was 7.28. The highest average score for current pain was 6.16 points in the type of pain in the form of cramp.

Discussion

Studies on the prevalence of pain in adults in Turkey are insufficient. In the literature, it has been stated that the prevalence of pain in our country is between 64-93% [3,11]. Population-based estimates of chronic pain among U.S. adults range from 11% to 40% (Interagency Pain Research Coordinating Committee. National pain strategy: a comprehensive population health-level strategy for pain. Washington, DC: US Department of Health and Human Services, National Institutes of Health; 2016).

In this study, it was determined that the prevalence of pain in different body parts was 76.3%, and the total score average of the Brief Pain Inventory of 127 participants living in Istanbul with an average age of 48.1 years was found to be moderate. Although this result is supported by the literature, the high frequency of pain can be interpreted as an indicator that pain continues to be a social health problem.

The average age of the participants was 48.1 ± 16.8 years, and the age range did not exceed 30-40. It was found that the educational status of the participants was mostly primary school, and most of the participants were females. In most prevalence studies, it was reported that pain increases with female gender and with advanced age [12-15]. Von Koff et al. in their study reported that in those who were educated, the older the age and the higher the degree of pain [12]. The results of this study were not similar, and it is thought that these results may add a different perspective to the literature.

Participants’ Brief Pain Inventory (BPI) total mean score was moderate, the worst pain in the last 24 hours was severe, the mean of the least pain in the last 24 hours was determined to be mild. Kuru et al. (2011) found the mean pain score as 3.6 ± 1.8 , and the mean score of the worst pain experienced in the last 24 hours as 4.4 ± 2.6 [3]. In the study in Spain, 40.4% of those suffering from chronic pain described mild pain, while 14.3% described very severe pain [15]. In our study, the values of the pain intensity score were found to be higher, although they were similar to other population-based studies.

According to our findings, it was found that there were most digestive system and surgical diseases as medical diagnosis and treatment. It was determined that the participants mostly preferred paracetamol group painkillers as analgesics, and the stinging type was the characteristic of the pain they experienced. It was determined that the body area with the most pain was the groin-pelvic region. Although the highest prevalence of pain was in the shoulder, when assessing its severity, in a study by Kuru et al. (2011), it was found that the most pain complaints were in the lumbar region. It was found that 33% of the individuals applied to non-steroid anti-inflammatory and/or analgesic drugs to reduce pain, and 1.2% underwent surgical intervention [3]. In a study investigating the prevalence of pain, it was reported that 96.7% of 91 patients with pain used medication for pain, and 67.8% used daily analgesics [16]. In the literature, it has been shown that chronic pain mostly originates from the lumbar region [17-21]. Studies investigating the prevalence of pain reported that patients used analgesic drugs for pain [3,16]. The results obtained in our study are thought to be similar to the literature.

Limitations of the Study

Among the main limitations of the study are that the sample in this study does not represent all inpatients, but only includes patients in a public hospital operating in Istanbul, and the design of the study is cross-sectional.

Conclusion and Recommendations

The prevalence of pain among adult patients in Turkey, according to the survey results, is quite high. In the current study, the high prevalence of pain and the moderate pain intensity can be due to ethnic and socioeconomic factors in the perception of pain. A multidisciplinary approach is required in evaluations made for the resolution of pain and the negativities it causes. It is necessary to use pain scales with proven validity and reliability, which do not cause different interpretations between patients, nurses, and physicians and give correct results in every use, and common pain control procedures should be established. It is recommended that health professionals, who play an important role in relieving or eliminating pain, increase their knowledge of pain, and how to manage.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

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